

MUST News

Department of Environmental Quality

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Release Reporting and DEQ Enforcement

*F*ailure to report suspected and confirmed releases in accordance with timeframes set forth in the Administrative Rules of Montana (ARM) Title 17, Chapter 56, sub-chapter 5 is a violation of the Montana Underground Storage Tank Act, §75-11-50, MCA et seq and rules adopted thereunder. The Montana Department of Environmental Quality (DEQ) may take formal enforcement action against all alleged violators of legal requirements to report releases and suspected releases from underground storage tanks and petroleum storage tanks. Reporting requirements in Montana statutes and rules and in federal regulations are designed to ensure prompt response that, in many cases, could minimize or eliminate environmental damage, or human health impacts. Therefore, proper reporting is not only important to save you from enforcement action, but also to protect human health and Montana's environment.

Reporting requirements are set forth in Title 17, Chapter 56, Sub-Chapter 5 of the Administrative Rules of Montana (ARM 17.56.501 through 507). DEQ updated these rules in March 2005. To be sure that you have the most current version, you can get a copy from the Secretary of State at <http://arm.sos.state.mt.us/17/17-6001.htm>, or you can request a copy by calling DEQ at (406) 841-5000.

What is a release?

The term "release" is used in many different ways in the English language. In normal conversation many people just refer to tank releases as "spills" or "leaks," or sometimes

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New Federal Energy Law has Implications for Underground Storage Tanks

President Bush has signed the Energy Policy Act of 2005 into law marking the first major overhaul of the nation's underground storage tank program in 20 years. Most of the provisions contained in the bill that pertain to motor fuel and our end-user customers have been widely reported in the media. They include:

- repeal the oxygenate mandate to produce reformulated gasoline and ensure there is no proliferation of gasoline specifications, or "boutique fuels;"
- mandate the use of at least 7.5 billion gallons annually of renewable fuels, like ethanol, be blended in gasoline by 2012;
- provide a tax break for hybrid gas-electric cars;
- expand daylight saving time; March 1, 2007, DST will begin the second Sunday in March and end the first Sunday in November.

For the readers of MUST News, the most important section of the new energy law relates to changes to the underground storage tank program. Specifically, the bill requires:

- States to mandate secondary containment of all new underground storage tank systems within 1,000 feet of any existing community water system or any existing potable drinking water well or require certification or licensure of UST installers and evidence of financial responsibility for manufacturers of tanks and/or piping and installers of underground storage tank systems. Montana will most probably amend UST regulation to require secondary containment on all new systems.
- UST operators be trained in the proper operation of their UST systems according to the individual's daily responsibilities. EPA has two years to establish owner/operator

guidelines and then the states have another two years to develop state specific training requirements consistent with the federal guidelines.

- All states to implement a delivery prohibition program to close non-compliant USTs and to hold liable delivery personnel who knowingly deposit petroleum products into a non-compliant UST. Montana's current delivery prohibition laws may be sufficient.
- All USTs to be inspected at least every three years. Montana law already requires this.
- Federal, state and local government agencies and Native American tribes that own tanks to submit a public report identifying the status of compliance of each tank, the nature of any violations issued and strategy for ensuring full compliance. Furthermore, the law gives state UST inspectors the ability to enforce against non-compliant federally owned and operated USTs.

EPA, in cooperation with the states, has much work ahead of them to establish definitions and guidelines for implementing these new requirements. Montana is in a very good position to comply in a timely manner. ■

New Petro Board Member: Meet Theresa Blazicevich

Theresa Blazicevich, recently appointed by Gov. Brian Schweitzer to the Montana Petroleum Tank Release Compensation Board, is director of the Ravalli County Environmental Health Department in Hamilton. She takes a position on the board created by the 2005 Legislature designated for a person with environmental regulatory experience.

Blazicevich would like to see the Petro Board accomplish during her term, including consistent and fair decisions on eligibility, timely review and processing of all claims, improved communication and better guidance for owners and consultants who are conducting cleanups, encourage compliance and prevention, and strive to make the process more friendly, cooperative and resolve conflicts quickly and efficiently.

Blazicevich, 51, has worked 24 years in federal, state or local government, beginning with EIS data collection and report writing for the federal Bureau of Land Management. She has also been a mine reclamation specialist and inspector for the Montana Department of State Lands, sanitarian for Jefferson and Broadwater counties, and grant administrator for reclamation grants at the Montana Department of Natural Resources and Conservation.

Blazicevich's previous public service also includes work as an underground storage tank compliance inspector and program manager, state superfund coordinator for cleanup of mainly railroad fueling facilities, and supervisor of state sanitation in subdivision reviews.

Blazicevich earned a bachelor's degree in education with a major in biology from the College of St. Benedict in St. Joseph, Minnesota. And a master's in zoology from the University of Idaho.

She is married to Dave Woodgerd. They have three grown children, and one 11-year old son. Blazicevich is a native Montanan where both parents' families homesteaded.

Her hobbies are gardening, quilting, hunting, fishing, and Montana history.

Blazicevich also has been active on a variety of committees and boards, including the Montana Environmental Health Association, Clancy School PTA, Brownie and Girl Scout leader and cookie sales chairman, Ducks Unlimited Helena Chapter, Governor's Interdepartmental Coordinating Committee for Women (ICCW), Department of Environmental Quality Employee Fund, State Employee Union Representative, and other various related organizations. ■

New Petro Board Member: Get to Know Frank Boucher, Jr.

Another new appointee by Gov. Brian Schweitzer to the Montana Petroleum Tank Release Compensation Board is Helena banker Frank Boucher, Jr., 51. Boucher takes the established board position designated for a representative of the financial or banking industry.

Boucher has no previous experience in government. As a new member of the Petro Board he acknowledges that he is still learning what the board does and he doesn't have a specific goal for the board to accomplish during his term. His work in the finance industry has given Boucher first-hand knowledge of how the Petro Board makes cleanup possible by making it affordable for small businesses and private individuals.

Boucher says he would like to see this work continue to benefit the environment and the people of Montana. "I believe that communication between the Legislature, the

board, and the public in the form of petroleum dealers and private individuals is key to this continued success," Boucher said. "I hope to help facilitate this ongoing communication during my term on the board."

Boucher earned a bachelor's degree in business management from Montana State University. He and his wife, Cheryl, have two grown children: a son, Seth, who, with his wife Becky, lives in Great Falls; and a daughter, Becky Anderson, who, with her husband Ryan, lives in Libby.

Boucher was born in Butte and raised in the Butte-Anaconda area. He has made a career in banking since 1978 and has worked in Thompson Falls, Butte, Great Falls, and Livingston before moving to Helena where he lives now. His hobbies are horses, fishing, camping, and family activities. ■

A New Threat to Drinking Water:

Petroleum Hydrocarbon Permeation of Non-metallic Public and Private Water Lines

By Bill Hammer

DEQ Petroleum Release Section

A few years ago, when the Montana Department of Environmental Quality Petroleum Release Section advised some professional and lay people that gasoline or diesel permeation of plastic pipe and rubber gaskets was a real threat resulting in contamination of the drinking water within, the idea was scoffed at.

A common belief was that the water pressure within the pipe would keep gasoline and diesel contaminants out. Not so. Quite simply, permeation is the movement of contaminants from the soil environment into the wall of the pipe or gasket, and eventually into the water inside the pipe. It occurs largely by a physico-chemical diffusion process that ignores the hydrostatic pressure of the water within the pipe. Petroleum permeation of certain non-metallic pipes and gaskets is now well documented by laboratory and field studies, and is an issue of concern if petroleum-contaminated soil, groundwater, (and, we suspect, petroleum vapor) is in contact with a non-metallic water line system.

An interesting investigation was conducted by the DEQ on a 30-inch section of one-inch diameter black polyethylene water service line excavated from soil contaminated with gasoline and diesel. Volatile organic compounds (VOCs) indicative of gasoline and diesel contamination had been detected in tap water in a private residence that the water line was connected to. When excavated, the section of black "poly" pipe smelled like gasoline, so DEQ personnel filled the pipe with distilled water and set it aside at room temperature for approximately eight hours to see if the petroleum contamination within the plastic pipe wall would contaminate the water inside. After approximately eight hours, a sample of water decanted from inside the pipe contained 527 parts per billion (ppb) benzene when analyzed by EPA Method 524.2 VOCs. The drinking water standard for benzene is 5 ppb, yet 527 ppb may represent the benzene concentration in a slug of water

entering this Montana residence every morning or afternoon. The neoprene service-connection saddle gasket (where the service line connects to the water main) also leached 1,400 ppb benzene into distilled water in a laboratory test. Fortunately, the DEQ had installed a filtration system on the residential water system at an earlier date.

The 10-inch diameter PVC public water main nearby was also excavated, revealing additional evidence of petroleum permeation. A rubber gasket from the water main contained 600,000 ppb benzene and 51,650,000 ppb gasoline range organics. Petroleum contamination was apparently entering public drinking water through at least four, diffusion-driven, pathways: a) through the 1-inch diameter black polyethylene service line, b) through the neoprene saddle gasket at the service connection, c) through the rubber gaskets at the slip connections in the 10-inch water main, and d) although unquantified, through the 10-inch PVC water main pipe.

Cases of petroleum permeation at Montana petroleum release sites have involved both polyvinyl chloride (PVC) and polyethylene (PE) water mains and service connections, as well as the rubber gaskets at their joints. Sometimes the contamination in the tap water exceeds the taste and odor threshold and is readily noticed by the consumer; however, in most instances discovered by DEQ, the concentrations of benzene and other contaminants are in "trace" amounts, or concentrations exceeding the water quality standards but not detectable by taste and odor. These are only discoverable by laboratory analysis.

Public water supplies are required to be tested periodically at the source for VOCs, but not at the tap. As a result, cases of permeation are usually discovered by testing required by DEQ as part of a petroleum release investigation, or by a private individual having a tap water sample analyzed. Once thought to be "secure,"

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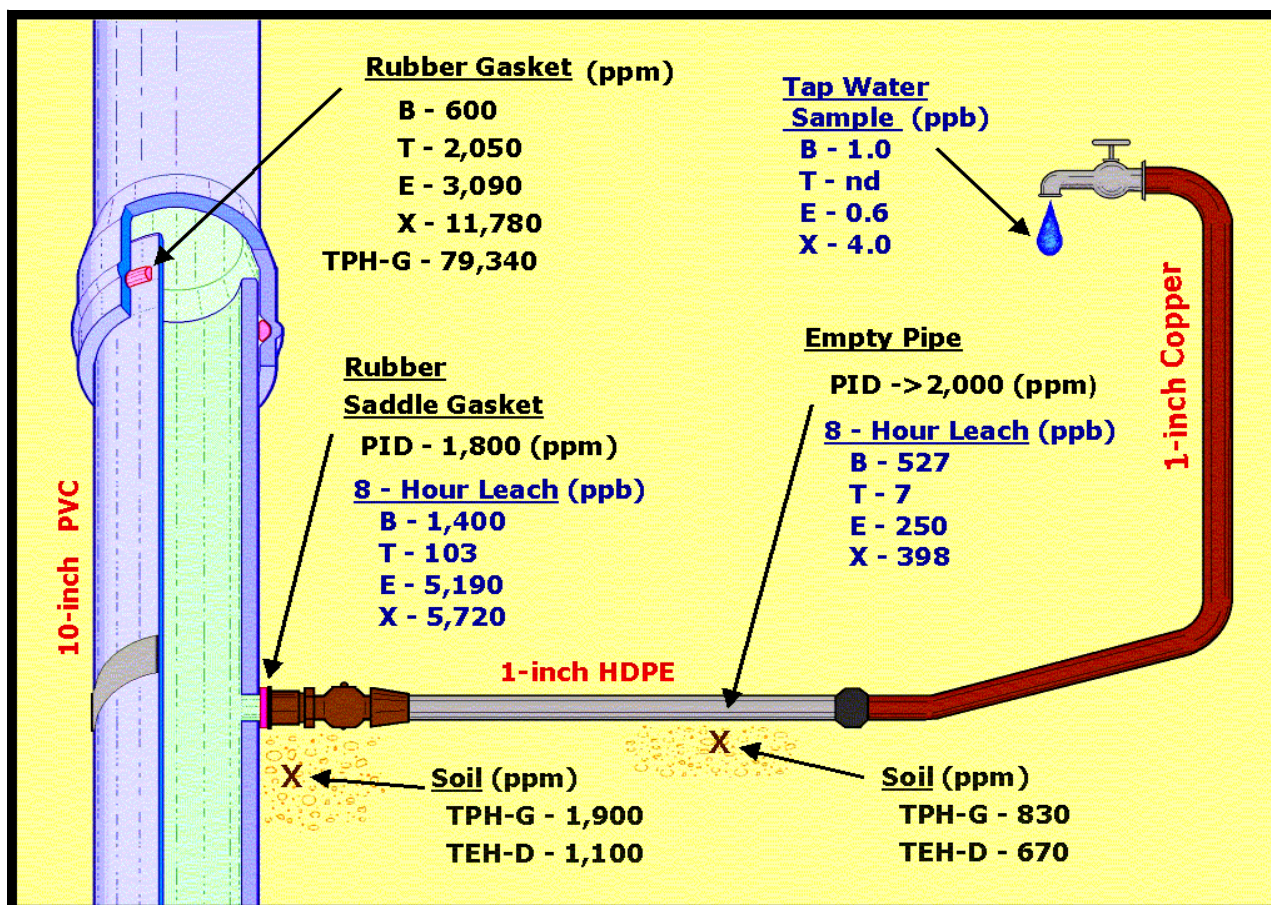
A New Threat to Drinking Water:

Petroleum Hydrocarbon Permeation of Non-metallic Public and Private Water Lines - *continued from page 4*

water within water mains and service lines is now viewed as vulnerable to contaminants in the soil and groundwater environment. The permeation phenomenon adds new meaning to the typical conceptual model of potential "receptors" impacted by a petroleum release.

Solutions to permeation problems can include re-routing the affected pipe around the contaminated area, retrofitting impacted water systems with activated charcoal filters, removing the contamination from the environment, replacing the susceptible water line with metallic pipe and petroleum-resistant nitrile or teflon gaskets, or combinations of all of the above.

Figure 1 - Illustration (not drawn to scale) of water main, residential service line, and petroleum contaminant concentrations discovered in the permeation case discussed in the text. Note that water sample contaminant levels are expressed in parts per billion (ppb), whereas soil, gasket material, and vapor levels are expressed in parts per million (ppm).



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“wrecks.” But for the purposes of reporting releases it is important to understand the legal definition. With respect to USTs and PSTs, Montana tank rules (specifically, ARM 17.56.101(54)) define a release as “any spilling, leaking, emitting, discharging, escaping, leaching or disposing from a tank system into ground water, surface water, or subsurface soils.”

Who must report?

It’s not just the owners and operators of USTs and PSTs who are required to report releases. Just about every type of professional trained or employed in the operation of storage tanks, or the environmental industry must report a release when they become aware of its existence. The following persons are all required under Montana tank rules (specifically ARM 17.56.502 and 506) to report suspected and confirmed releases:

- Owners and operators of PSTs and USTs;
- any person who installs or removes USTs;
- any person who performs subsurface investigations for the presence of regulated substances (DEQ considers this to include consultants performing environmental assessments at PST and UST sites for any reason and working for any person);
- any person who performs a tank tightness or line tightness tests pursuant to ARM 17.56.407 or 17.56.408.

What constitutes a suspected release?

The following conditions constitute a suspected release under Montana tank rules (ARM 17.56.502):

- (a) Visual or olfactory observations, field monitoring results or other indicators of the presence of regulated substances in soil or nearby surface or ground water, or the presence of free product or vapors in basements, sewer or utility lines;
- (b) The sudden or unexplained loss of product from a tank system;

- (c) A failed tightness test, performed in accordance with subchapter 4 of the UST rules, unless the tank system is found to be defective but not leaking and is immediately repaired or replaced;
- (d) Sampling, testing or monitoring results from a release detection method, performed in accordance with subchapter 4, that indicate a release may have occurred, unless the release detection or monitoring device is found to be defective and is immediately repaired, recalibrated, or replaced, and subsequent monitoring, sampling or testing indicates that the system is not leaking;
- (e) The presence of product in the tank secondary containment system (including all spaces between double-wall tanks and pipes, areas inside turbine sumps and sumps beneath dispensers, and any other area designed to contain product when a primary container leaks or when maintenance activities spill product);
- (f) Erratic behavior of product dispensing equipment or automatic release detection equipment unless the equipment is found to be defective but not leaking, and is immediately repaired or replaced (this includes anything out of the ordinary from how the equipment is designed to function);
- (g) An unexplained presence of water in the tank or in the interstitial space between the tank and the tank secondary containment;
- (h) Inconclusive results from a tank tightness test, performed in accordance with subchapter 4, unless the tank system is found to be defective but not leaking (if the tester cannot verify that an UST is tight, then it is a suspected release);
- (i) Sampling, testing or monitoring results from a release detection method, required under subchapter 4, that are inconclusive and cannot rule out the occurrence of a release, unless the monitoring device is found to be defective and is immediately repaired, recalibrated or replaced,

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and subsequent monitoring, sampling or testing indicates that the system is not leaking (again; if the release detection results cannot verify that a release has not occurred, then it is a suspected release); and

- (j) Analytical results from contaminated soils that exceed 50 milligrams per kilogram for extractable petroleum hydrocarbons (EPH).

Any of the above described conditions must be reported to the DEQ within 24 hours of its discovery. Even though many of the situations listed above could turn out not to be a release, it is important to notify the DEQ of them and take appropriate action to prove that they are not actual releases. Once notified, DEQ will be able to assist and advise the owners and operators on what actions to take to verify whether the condition is an actual release or not. If it turns out to be a release, then you will be in a good position to take early actions to stop any continuing release of product and to better clean up released product before it spreads further into the environment and causes health impacts or safety hazards.

How do I confirm a suspected release?

Once a suspected release has been reported, DEQ will assign a Petroleum Release Section (PRS) project manager to assist and direct the tank owner or operator. The owner or operator of the tank must either initiate corrective action (investigation and cleanup) or immediately investigate and confirm the release within seven days of its discovery. The PRS project manager will notify the owner or operator of what specific steps to take next. Under some situations, this may entail conducting tightness testing to determine whether a leak exists in any portion of the tank that routinely contains product. Depending on the circumstances of why a release is suspected, DEQ may require a site check. Site checks entail measuring for the presence of a release where contamination is most likely to be present at the site.

What constitutes a confirmed release?

Confirmed releases include suspected releases that have been confirmed through the process described above or a release identified in any other manner. If you see, smell, or detect petroleum in the environment outside of an UST

or PST, then it is a confirmed release. If you are unsure, you should report the condition to the DEQ as a suspect release and a PRS project manager will advise you.

Releases are often confirmed through environmental samples collected from water or soil at a tank site. When these laboratory results exceed reporting value, then a release is confirmed. Reporting values for tank releases are defined in ARM 17.56.506(1)(b) and include:

- (i) Risk-based screening levels (RBSLs) established for petroleum contaminants in surface soil at UST sites, published in Table 1 of Montana Tier 1 Risk-based Corrective Action Guidance for Petroleum Releases (RBCA) for petroleum compounds and mixtures in surface and subsurface soil (located at <http://www.deq.state.mt.us/rem/hwc/rbca/NewRBCA11-2003/revSurfSoilRBSLs10-03.pdf>);
- (ii) Preliminary remediation goals or soil screening levels published in the United States Environmental Protection Agency, Region 9 Preliminary Remediation Goals for soil analyses of contaminants in soil that are not listed in RBCA.
- (iii) Contaminant levels in water that exceed background levels in the receiving water (this includes any contamination, regardless of quantity, reaching ground water or surface water).

What about spills and overfills?

Spills and overfills must also be reported at tank sites with few exceptions. Petroleum spills and overfills do not need to be reported if they: are under 25 gallons, do not cause a sheen on nearby surface water, and are entirely cleaned up within 24 hours. It is important to note that even a spill less than 25 gallons must be reported if it cause a sheen on surface water or the entire release cannot be cleaned up within 24 hours.

How must releases be reported?

Montana tank rules (specifically, ARM 17.56.502 and 506) define specific requirements for reporting suspected and confirmed releases. Reporting parties must report to

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a live person within the DEQ Remediation Division, or the 24-hour Disaster and Emergency Services duty officer available at telephone number (406) 841-3911. Messages left on answering machines, received by facsimile, e-mail, voice mail, or other messaging devices are not adequate.

What timeframes are releases to be reported in?

All suspected releases, confirmed releases, spills and overfills must be reported within 24 hours of discovery with one exception. When a release is confirmed through laboratory sample results and there are no other circumstances indicating a release, then it must be reported within seven days of the release confirmation (or within seven days of the date the soil sample results from the lab are received).

You could be subject to enforcement including a fine!

The DEQ is authorized to seek an administrative or judicial penalty from any person who does not comply with reporting requirements. Montana law allows the DEQ to seek an administrative penalty of up to \$500 or a judicial penalty not to exceed \$10,000 for each violation. Failure of any of the required persons to notify a release or suspected release may also jeopardize tank owner or operator's reimbursement of corrective action costs by the Petroleum Tank Release Cleanup Fund. In addition, failure to address an ongoing release in a timely fashion may cause or exacerbate impacts to your neighbors and possibly reduce reimbursement. So timely reporting of releases is in everyone's best interests, and delaying can only increase costs. ■

